



# Southern Alameda County Rail Integrated Analysis

## *Appendix D: Conceptual Design Plans*

June 16, 2023

In partnership with:



# **Union City Intermodal Station – Phase 3**

**Conceptual Design**

**Overall Plan Views**









# **Union City Intermodal Station – Phase 3**

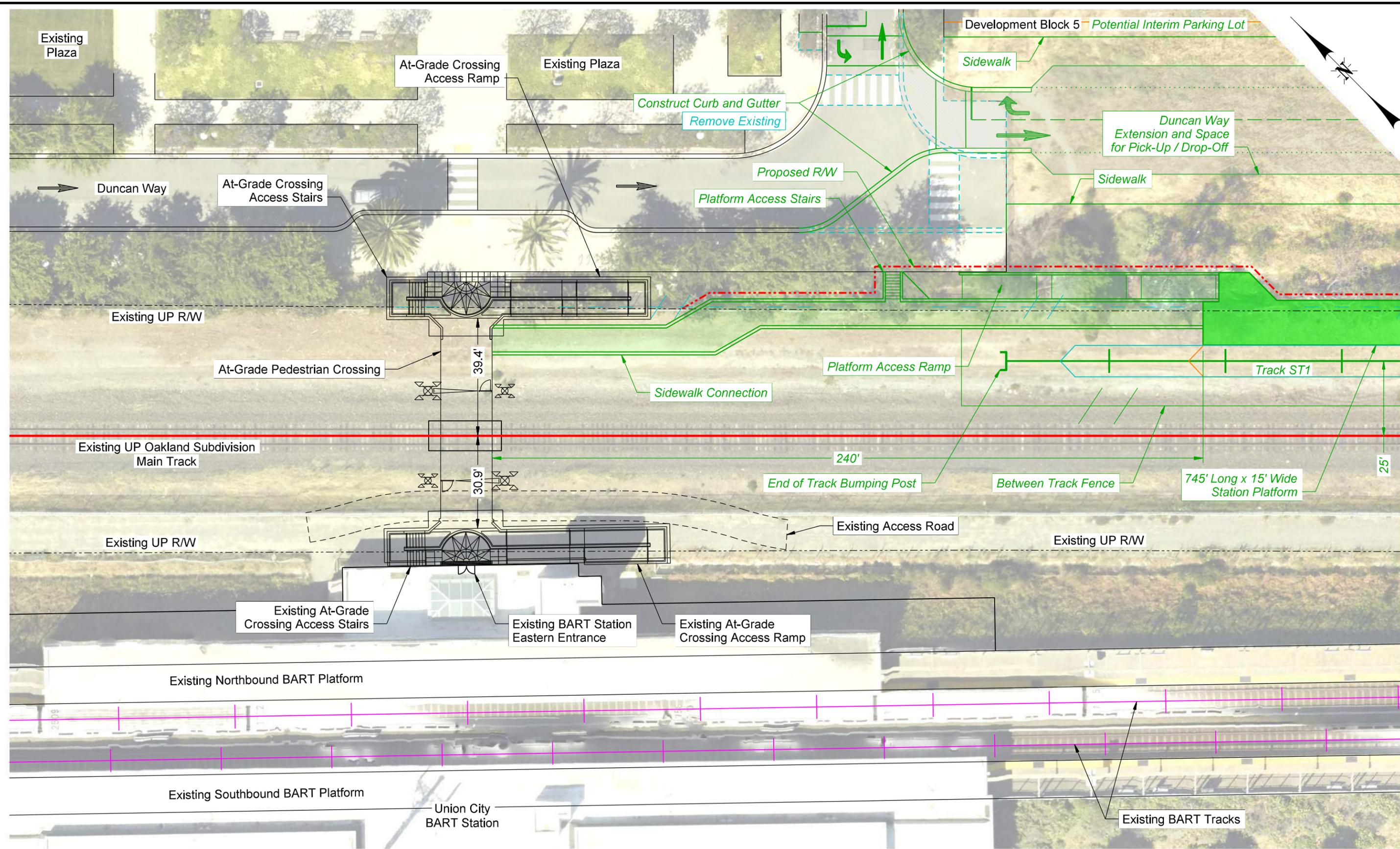
## **Conceptual Design**

### **Pedestrian Access Exhibits**





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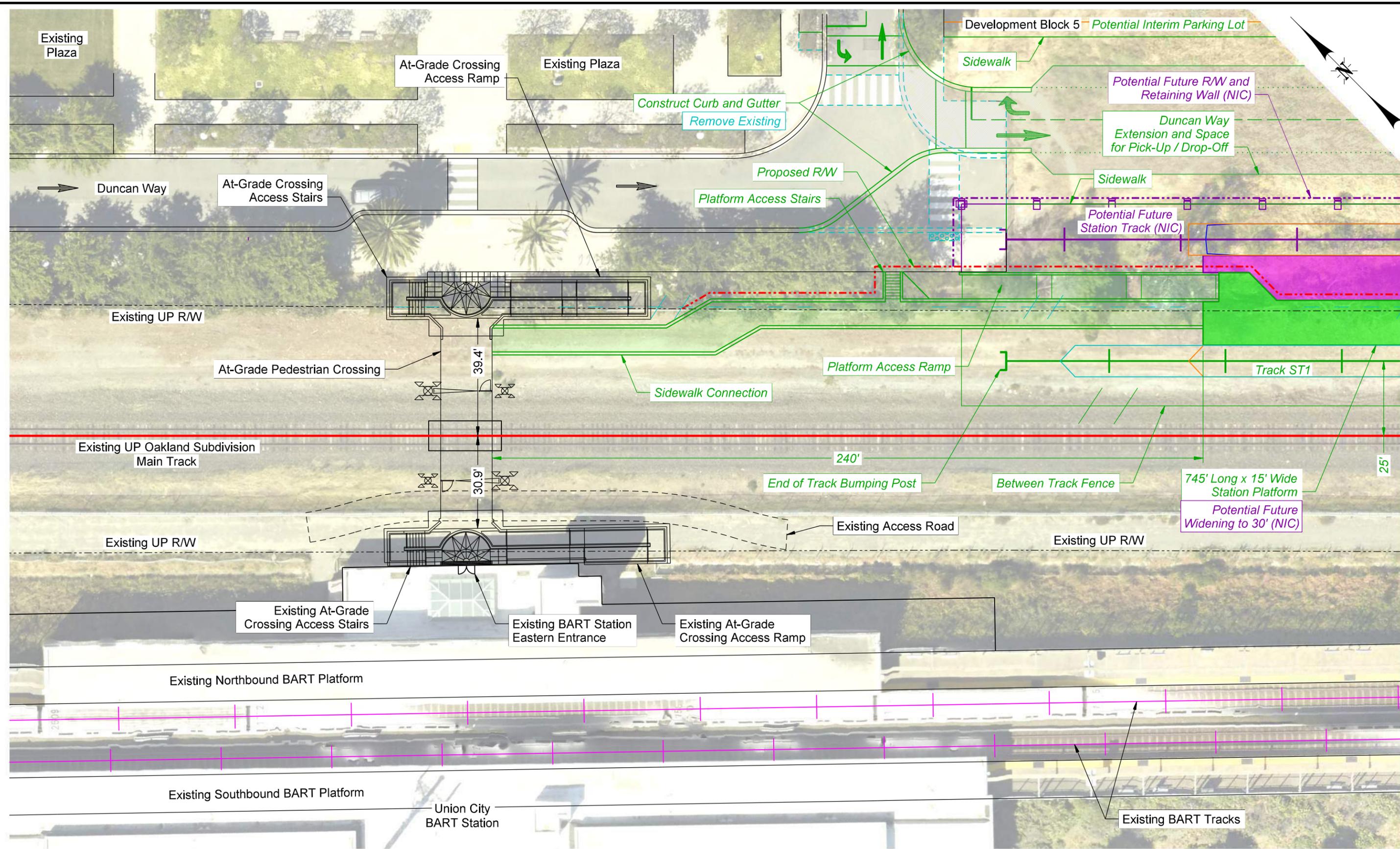


**CONCEPTUAL**  
 NOT FOR CONSTRUCTION 4/19/2023



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CHECKED BY: EBB		
DATE: 19 APR 2023		
SHEET NUMBER		

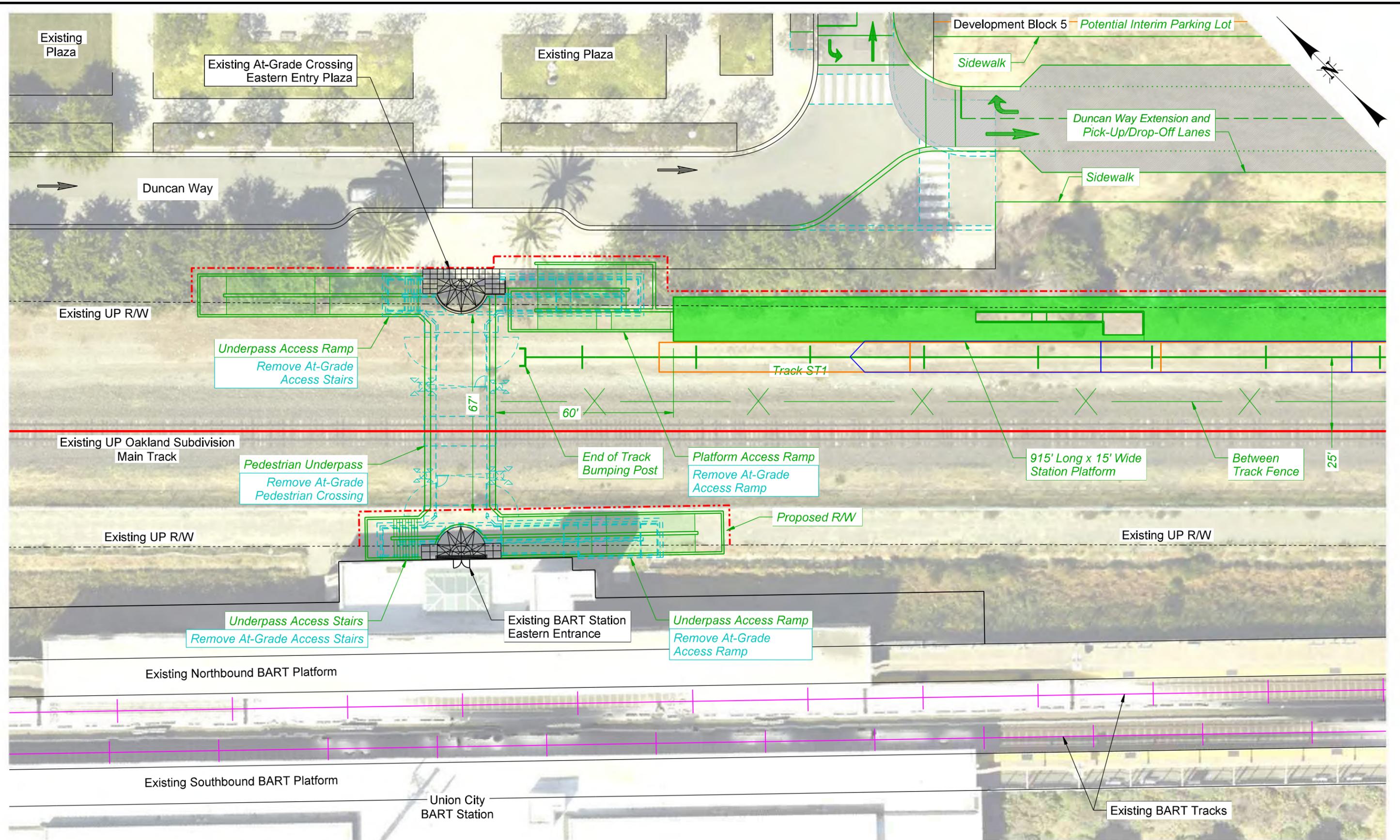
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**CONCEPTUAL**  
 NOT FOR CONSTRUCTION 4/19/2023



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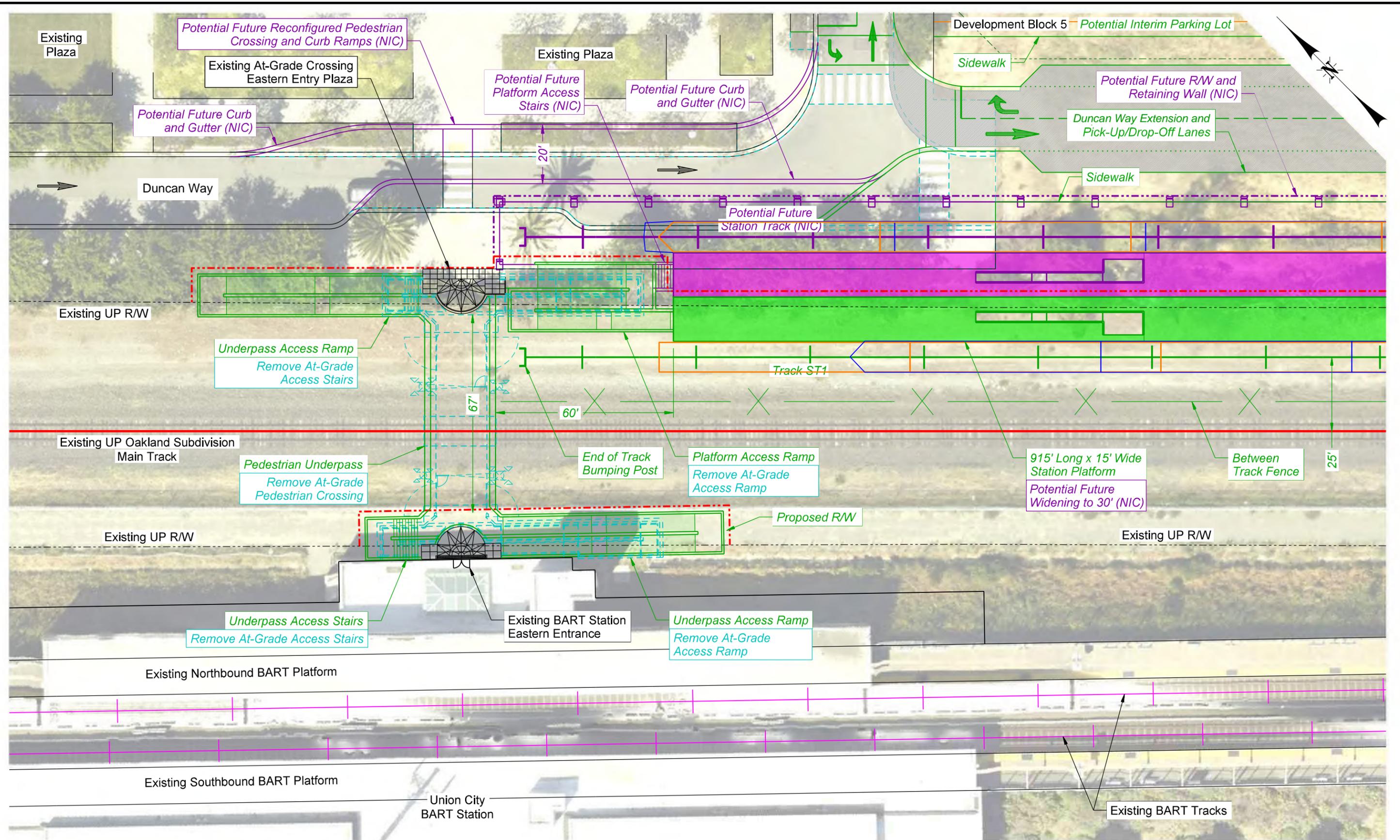
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CONCEPTUAL  
 NOT FOR CONSTRUCTION 4/19/2023



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DATE: 19 APR 2023				



**CONCEPTUAL**

NOT FOR CONSTRUCTION 4/19/2023



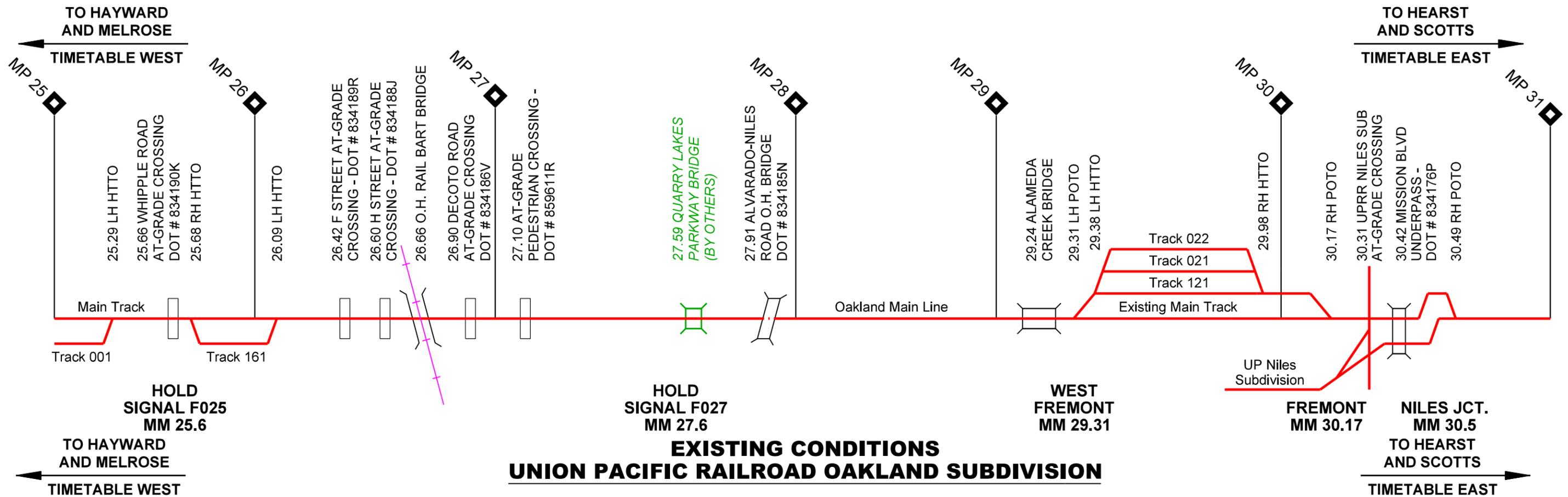
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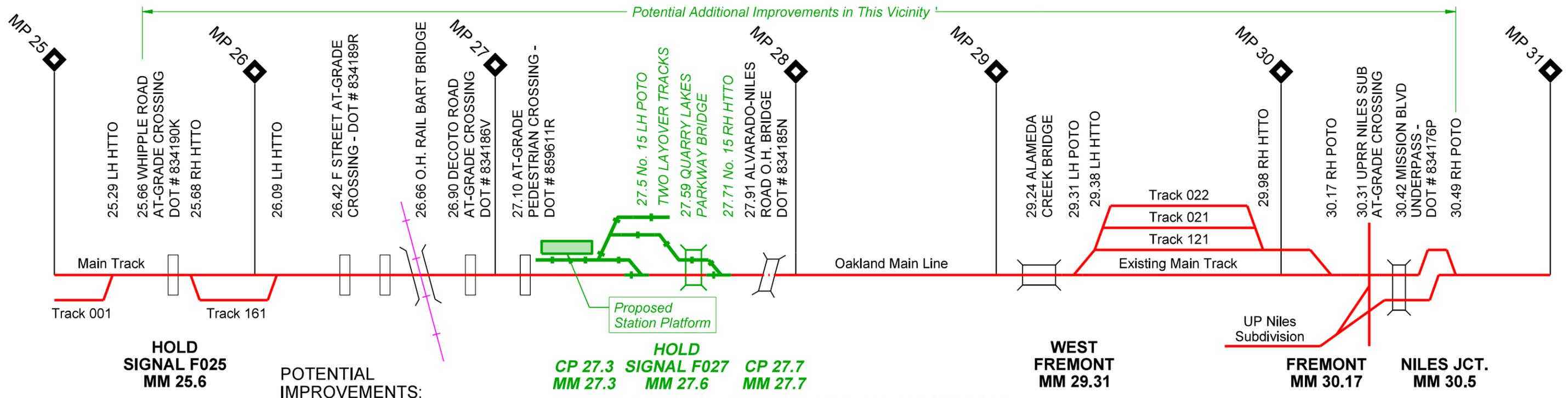
# **Union City Intermodal Station – Phase 3**

**Conceptual Design**

**Track Schematic Drawings**



**EXISTING CONDITIONS  
UNION PACIFIC RAILROAD OAKLAND SUBDIVISION**



**SoCo RAIL PROPOSED CONDITIONS  
UNION PACIFIC RAILROAD OAKLAND SUBDIVISION**

**LEGEND:**

- EXISTING TRACK
- PROPOSED TRACK
- POTENTIAL FUTURE TRACK (NIC)

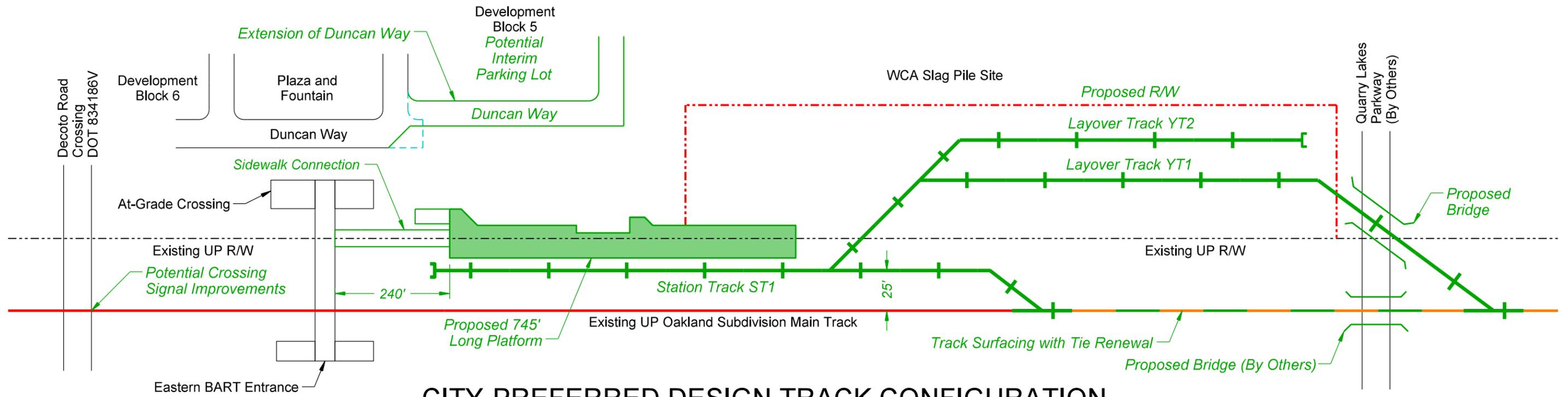
**POTENTIAL IMPROVEMENTS:**

1. Positive Train Control Installation.
2. Wayside Signal Improvements.
3. Highway-Rail Grade Crossing Improvements.
4. Track Surfacing.
5. Turnout Installation and/or Replacement.

**CONCEPTUAL**  
NOT FOR CONSTRUCTION 4/19/2023

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LOCATION & DESCRIPTION: SOUTHERN ALAMEDA COUNTY INTEGRATED RAIL STUDY UNION CITY INTERMODAL STATION - PHASE 3 CITY OF UNION CITY, CA		SHEET TITLE: EXISTING AND PROPOSED TRACK CONFIGURATION SCHEMATIC	
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NOT TO SCALE

### CITY-PREFERRED DESIGN TRACK CONFIGURATION WITH CPUC-APPROVED AT-GRADE PEDESTRIAN CROSSING

**LEGEND:**

	EXISTING TRACK
	PROPOSED TRACK

**Benefits of the City-Preferred Design:**

1. Preserves the Pick-Up and Drop-Off Lane along Loop Road, Consistent With the City's Preferences.
2. No Impact to the Plaza, Consistent With the City's Preferences.
3. Defers Construction of an Intermediate Pedestrian Underpass Along the Platform.

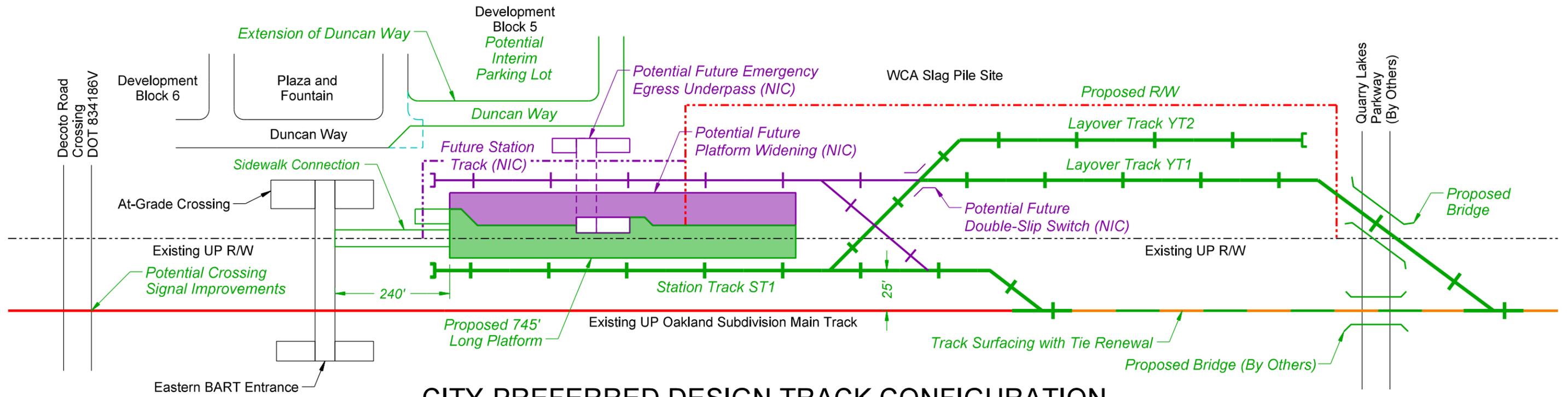
**Challenges of the City-Preferred Design:**

1. Reduced Platform and Layover Length Reduces Passenger Capacity and Operational Flexibility.
2. Platform Ends 240 Feet South of the At-Grade Crossing, Contrary to the 300 Feet UP Standards.
3. Does not accommodate a UP Access Road on the east side of the Main Track.
4. Only one Layover Track (YT1) has southern access to the UP Oakland Subdivision Main Line.
5. Significant Impacts to the UP R/W.
6. There is a risk that the increased number of people using the At-Grade Crossing could potentially trigger the necessity to construct a grade-separated pedestrian crossing.

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 NOT FOR CONSTRUCTION 4/19/2023

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SHEET NUMBER		SHEET TITLE: SoCo RAIL TRACK SCHEMATICS CITY-PREFERRED DESIGN	DWG NUMBER GT101



NOT TO SCALE

### CITY-PREFERRED DESIGN TRACK CONFIGURATION WITH CPUC-APPROVED AT-GRADE PEDESTRIAN CROSSING

**LEGEND:**

	EXISTING TRACK
	PROPOSED TRACK
	POTENTIAL FUTURE TRACK (NIC)

#### Benefits of the City-Preferred Design:

1. Preserves the Pick-Up and Drop-Off Lane along Loop Road, Consistent With the City's Preferences.
2. No Impact to the Plaza, Consistent With the City's Preferences.
3. Defers Construction of an Intermediate Pedestrian Underpass Along the Platform.

#### Challenges of the City-Preferred Design:

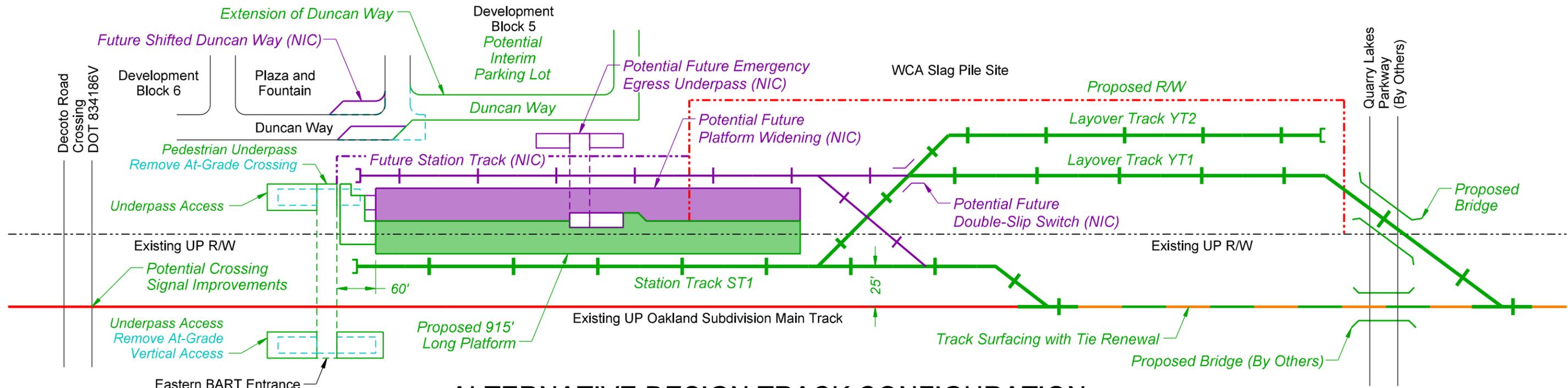
1. Reduced Platform and Layover Length Reduces Passenger Capacity and Operational Flexibility.
2. Platform Ends 240 Feet South of the At-Grade Crossing, Contrary to the 300 Feet UP Standards.
3. Does not accommodate a UP Access Road on the east side of the Main Track.
4. Only one Layover Track (YT1) has southern access to the UP Oakland Subdivision Main Line.
5. Significant Impacts to the UP R/W.
6. There is a risk that the increased number of people using the At-Grade Crossing could potentially trigger the necessity to construct a grade-separated pedestrian crossing.
6. The "double slip" switch used to access both layover tracks increases installation cost and maintenance expenses.

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NOT FOR CONSTRUCTION		SHEET NUMBER	





**ALTERNATIVE DESIGN TRACK CONFIGURATION  
WITH A PEDESTRIAN UNDERPASS**

NOT TO SCALE

**LEGEND:**

	EXISTING TRACK
	PROPOSED TRACK
	POTENTIAL FUTURE TRACK (NIC)

**Benefits of the Alternative Design:**

1. No Impact to the Plaza in the Initial Operations Configuration, consistent with the City's preferences.
2. Accommodates a Longer Valley Rail Standard Trainset Length.
3. Platform Extends Nearly to the At-Grade Crossing Minimizing the Distance to the BART Station Entrance.
4. Using a Pedestrian Underpass increases crossing safety and Reduces the Risk of Trespassing in the UP R/W.

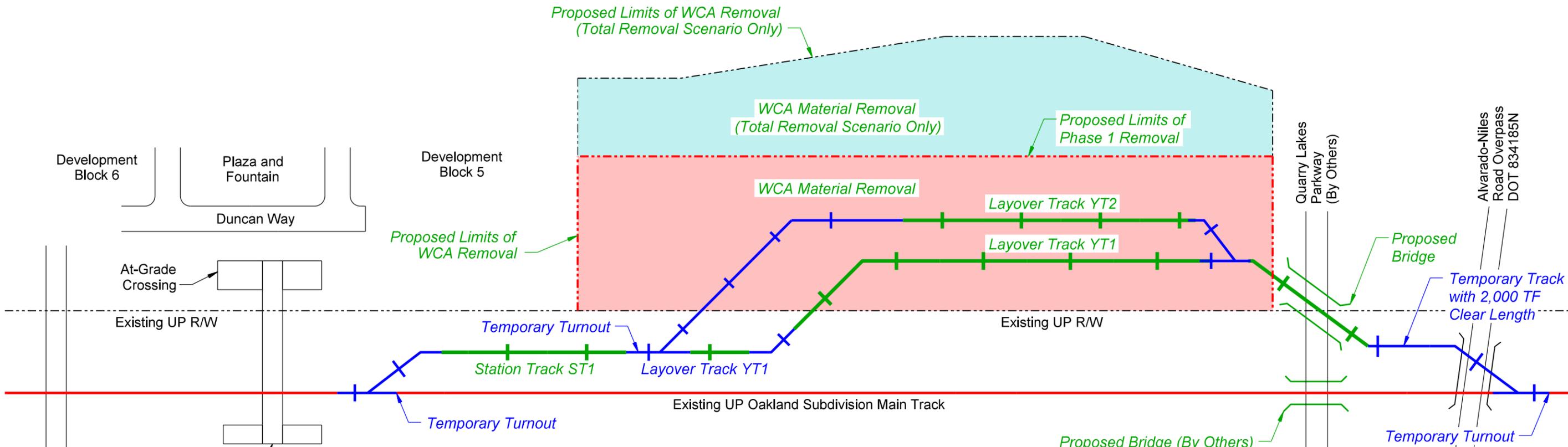
**Challenges of the Alternative Design:**

1. Potential Future Platform and Road Configuration Requires the Removal of Trees on the East Side of Loop Road for Widening.
2. Potential Future Platform Configuration Requires Removing the At-Grade Crossing Access and Replacing it With a Pedestrian Underpass, Contrary to the City's Preferences.
3. Using a Pedestrian Underpass Reduces Perceived Pedestrian Comfort, Requiring Additional Security Measures.
4. Design Does Not Accommodate a UP Access Road on the East Side of the Main Track.
5. Only one Layover Track (YT1) has southern access to the UP Oakland Subdivision Main Line.
6. Significant Impacts to the UP R/W.
7. The "double slip" switch used to access both layover tracks increases installation cost and maintenance expenses.

**CONCEPTUAL**  
NOT FOR CONSTRUCTION 4/19/2023

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### WCA EXCAVATION PHASE 1 USED FOR BOTH PARTIAL AND TOTAL WCA REMOVAL SCENARIOS PRIOR TO INTERCITY PASSENGER RAIL OPERATIONS

#### WCA Excavation Phase 1 Notes:

1. Provides two yard tracks (YT1 and YT2) with 1,630 TF Clear Length, and a temporary South Lead Track with 2,000 TF Clear Length, consistent with the 2018 SCS Report.
2. Requires the installation of two temporary turnouts on the UP Oakland Subdivision Main Track south of the At-Grade Pedestrian Crossing.
3. Requires the installation of two temporary turnouts on the station and layover tracks and a temporary northern access to Track YT2.
4. Temporary trackwork to be removed and the permanent station and layover facilities will be constructed prior to commencement of Intercity Passenger Rail operations.

**LEGEND:**

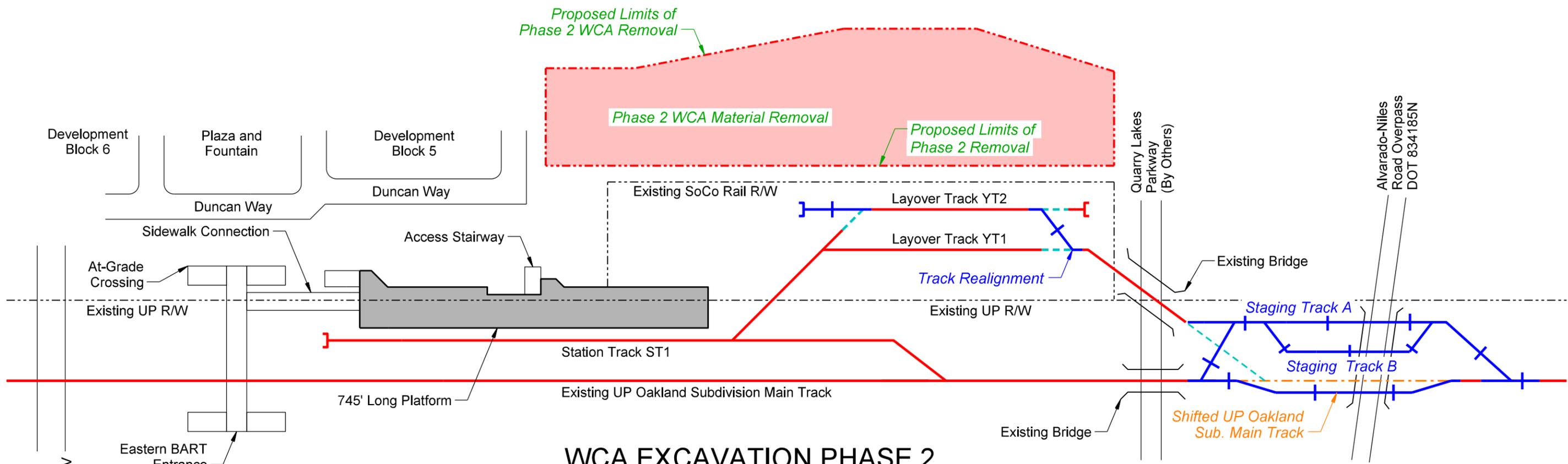
- EXISTING TRACK
- +— PROPOSED TRACK
- +— TEMPORARY TRACK
- LOCATION OF PHASE 1 WCA MATERIAL REMOVAL
- LOCATION OF WCA MATERIAL REMOVAL (TOTAL REMOVAL SCENARIO)

**CONCEPTUAL**

NOT FOR CONSTRUCTION 4/19/2023

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DATE: 19 APR 2023		LOCATION & DESCRIPTION: SOUTHERN ALAMEDA COUNTY INTEGRATED RAIL STUDY UNION CITY INTERMODAL STATION - PHASE 3 CITY OF UNION CITY, CA	
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### WCA EXCAVATION PHASE 2 EXCAVATION AND OFF-HAUL BY RAIL OF THE REMAINING WCA MATERIAL

#### WCA Excavation Phase 2 Notes:

1. Requires the installation of two temporary turnouts and a track shift along the UP Oakland Subdivision Main Track.
2. Layover Track YT1 is disconnected from the Quarry Lakes Parkway Bridge so the only access is from the station platform.
3. Track YT2 is disconnected from the station platform and realigned to connect to the Quarry Lakes Parkway Bridge.
4. This phase provides One Yard Track (YT2) for WCA material loading with 560 TF Clear Length.
5. This phase provides Two Staging Tracks (A and B) with 1,630 TF Clear Length south of Quarry Lakes Parkway, which are operationally equivalent to the 2018 SCS Report.
6. There is sufficient flexibility that normal Intercity Passenger Rail operations would not be affected by the WCA off-haul operations during Phase 2.

**LEGEND:**

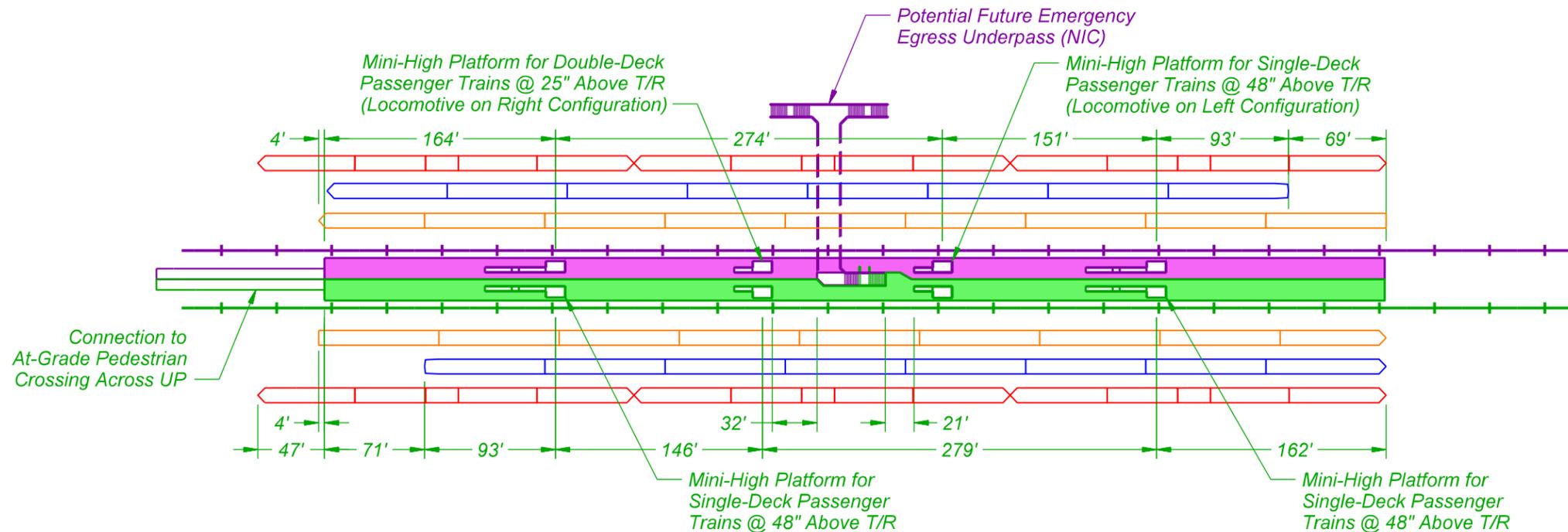
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	PROPOSED TRACK
	TEMPORARY TRACK
	SHIFTED TRACK
	REMOVED TRACK
	LOCATION OF PHASE 2 WCA MATERIAL REMOVAL

**CONCEPTUAL**  
NOT FOR CONSTRUCTION 4/19/2023

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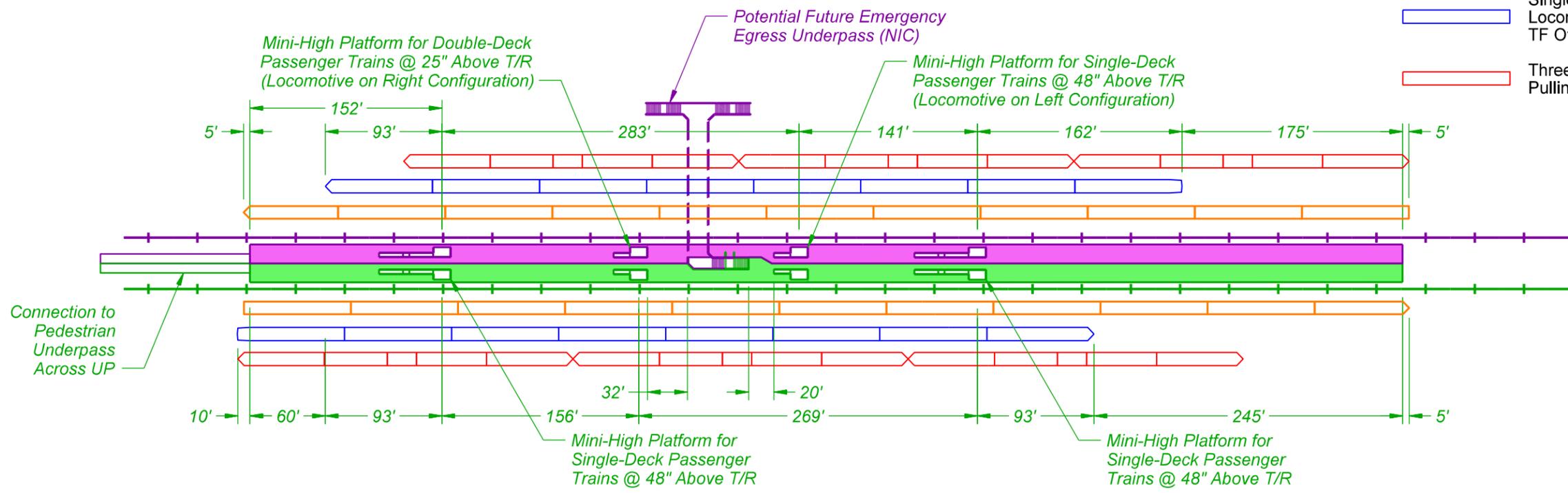
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**SoCo RAIL STATION PLATFORM CONFIGURATION  
 CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING  
 SHOWING LOCATIONS OF MINI-HIGH PLATFORMS AND  
 LOCATIONS OF TRAINSETS ALONG THE PLATFORM**

**LEGEND:**

- Bi-Level Train With 1 Locomotive @ 75 TF and 8 Passenger Cars @ 85 TF Over the Pulling Faces = 755 TF Total Length
- Single-Deck Siemens Venture Train With 1 Locomotive @ 75 TF and 7 Passenger Cars @ 75 TF Over the Pulling Faces = 670 TF Total Length
- Three Stadler FLIRTs = @ 266 TF Over the Pulling Faces = 798 TF Total Length



**SoCo RAIL STATION PLATFORM CONFIGURATION  
 ALTERNATIVE DESIGN WITH PEDESTRIAN UNDERPASS  
 SHOWING LOCATIONS OF MINI-HIGH PLATFORMS AND  
 LOCATIONS OF TRAINSETS ALONG THE PLATFORM**

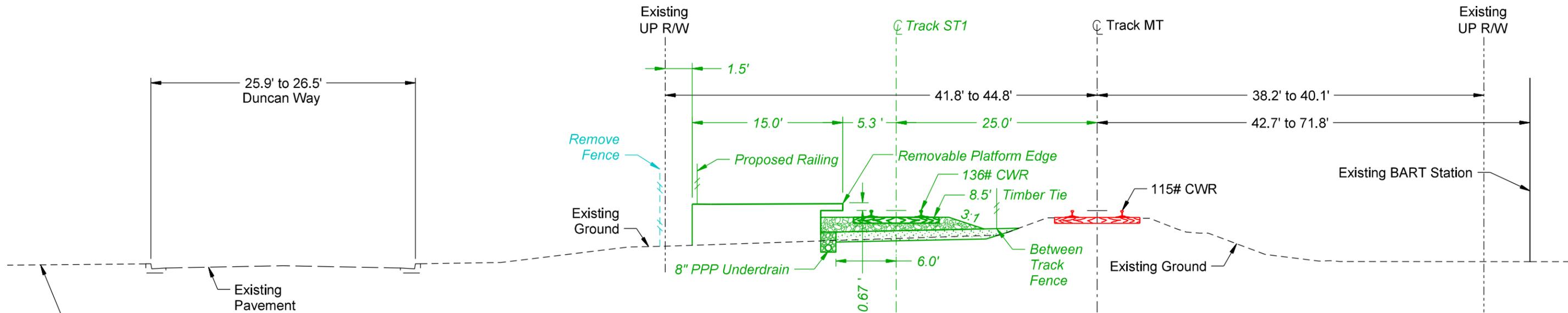
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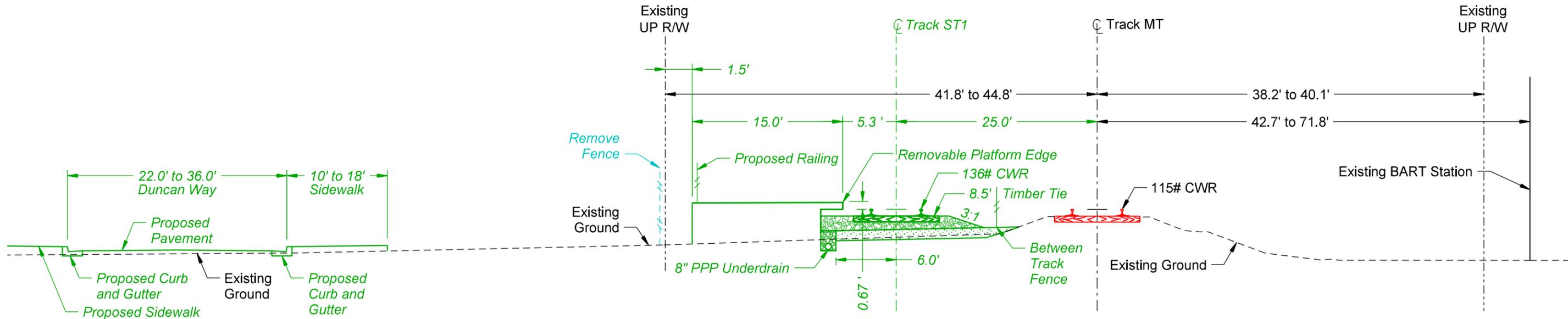
# **Union City Intermodal Station – Phase 3**

**Conceptual Design**

**Typical Section Drawings**



**PROPOSED UNION CITY PLATFORM  
ADJACENT TO THE PLAZA**  
ALTERNATIVE DESIGN - WITH 915' PLATFORM



**PROPOSED UNION CITY PLATFORM  
ADJACENT TO DEVELOPMENT BLOCK 5**  
CITY-PREFERRED DESIGN - WITH 745' PLATFORM  
ALTERNATIVE DESIGN - WITH 915' PLATFORM

**CONCEPTUAL**  
NOT FOR CONSTRUCTION 4/19/2023

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